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High energy short pulse laser device, has a multiple reflection telescope with a curved and a planar mirror that replaces a multiple reflection assembly, so that telescope size is effectively halved and device size is reduced

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Patent Family

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AT 200200763	A	20030515	AT 2002763	A	20020517	200354	B
WO 200398314	A2	20031127	WO 2003AT136	A	20030513	200402	
AT 411411	B	20031115	AT 2002763	A	20020517	200380	
AU 2003232903	A1	20031202	AU 2003232903	A	20030513	200442	
EP 1506601	A2	20050216	EP 2003726986	A	20030513	200513	
			WO 2003AT136	A	20030513		
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			WO 2003AT136	A	20030513		
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			US 2005514894	A	20050131		
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			WO 2003AT136	A	20030513		
JP 2005535107	W	20051117	WO 2003AT136	A	20030513	200576	
			JP 2004505780	A	20030513		

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Patent Details

Patent	Kind	Language	Page	Main IPC	Filing Notes
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AT 411411	B			H01S-003/08	Previous Publ. patent AT 200200763
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BR 200310086	A			G02B-023/00	Based on patent WO 200398314
KR 2005012249	A			H01S-003/08	
US 20050129082	A1			H01S-003/08	
CN 1653658	A			H01S-003/098	
JP 2005535107	W		23	H01S-003/11	Based on patent WO 200398314

Abstract:

WO 200398314 A2

NOVELTY Short pulse laser device (11), preferably with passive mode coupling, contains a laser crystal in addition to a number of mirrors (M6, M7, OC) that define long and short resonator arms. One mirror forms a pump beam coupling-in mirror and another (OC) forms a laser beam output coupler. The device also comprises a multiple reflection telescope (18) that increases the length of the resonator and is allocated to the resonator arms.

DETAILED DESCRIPTION The invention also relates to a corresponding multiple reflection telescope that comprises only one curved mirror (26) in addition to a planar mirror (25), whose position corresponds substantially to that of the center of a virtual multiple reflection assembly with two curved mirrors.

USE High energy short pulse laser device, with pulse durations of less than a femtosecond and peak powers of greater than 1 MW.

ADVANTAGE The design of the inventive laser device and telescope enables maintenance or even increasing of the peak laser pulse, the device dimensions are reduced.

DESCRIPTION OF DRAWING(S) The figure shows a schematic view of an inventive laser device mounted on an assembly plate.

short pulse laser device (11)

multiple reflection telescope (18)

mirrors (M6, M7, OC)

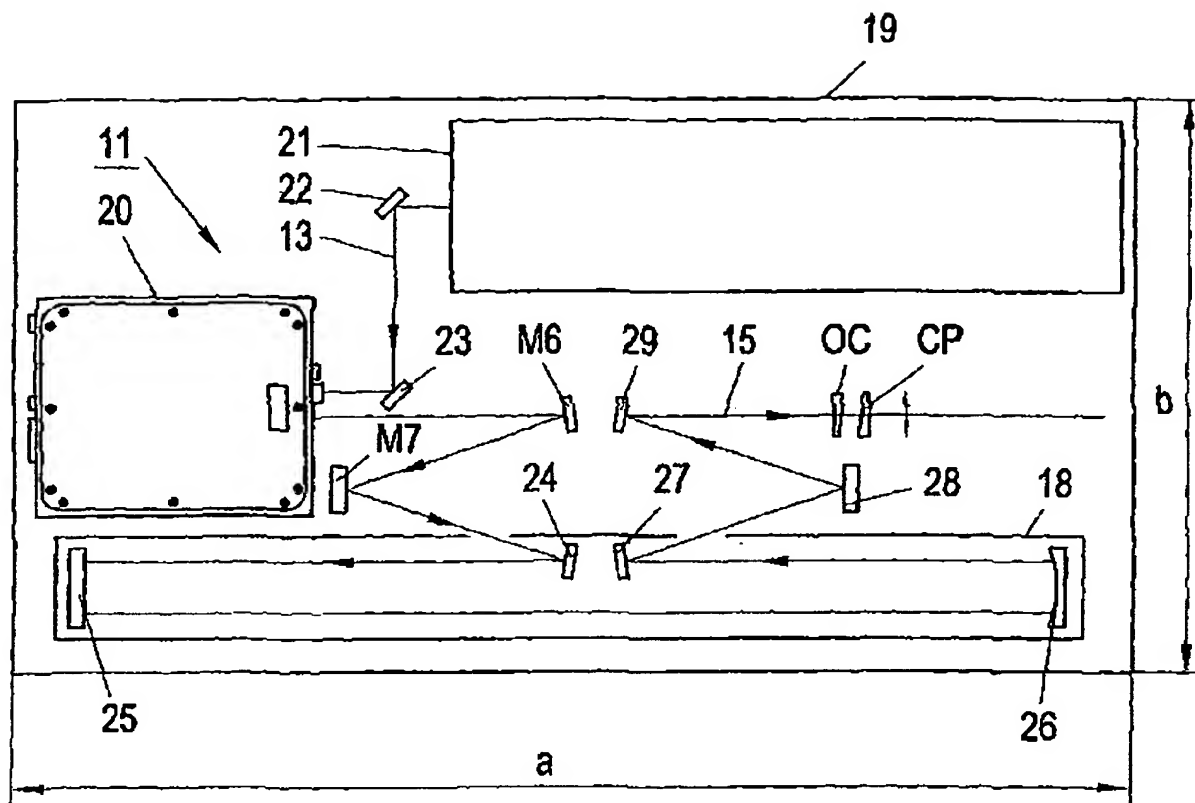
curved mirror (26)

planar mirror (25)

pump beam (13)

laser beam. (15)

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